

The importance of Japanese wetlands as wintering grounds for the endangered Saunders's Gull *Larus saundersi*

MARK A. BRAZIL and NIAL MOORES

The wintering range of the Saunders's Gull *Larus saundersi* (one of the world's rarest gulls) is presumed to extend from the Korean peninsula in the north to the major wetlands of northern Viet Nam in the south. Recent observations, however, suggest that the wetlands of Kyushu, Japan, may well hold up to 25% of the world's population of this species, making the tidal mud-flats, estuaries and river mouths of this region, particularly around the inland sea-like Ariake-kai of west Kyushu, and Hakata Bay of north Kyushu, internationally important for the long term survival of the species. A full, site-by-site winter survey is deemed necessary to further clarify the value of these sites, and the protection of these wetlands, by designating them under the Ramsar Convention, is urged.

The status and distribution of Saunders's Gull has, for more than a century since its initial description (Swinhoe 1871), been a mystery. It was once considered only to breed inland in China (where it was thought to be the commonest small gull) on northern lakes east to Inner Mongolia, and to be a migrant through coastal north-east China to its supposed wintering grounds along the eastern and southern coasts of China (Wild Birds Society of Japan 1982, Meyer de Schauensee 1984, Collar and Andrew 1988, Brazil 1992c). Even as recently as 1988 it was still believed to breed inland, at Hulun Nur, in Heilongjiang province (Shi *et al.* 1988), but D. S. Melville and G. J. Carey (*in litt.* 1992) have shown that the birds occupying this site are Relict Gulls *L. relictus*, and that the site is unsuitable for Saunders's Gulls. Investigations and discoveries during the late 1980s and early 1990s have, however, shown it to be an endemic breeding species of the coastal provinces of eastern China.

Saunders's Gull is dependent on the unique and increasingly rare habitat provided by the great rivers of eastern China, where they deposit silt at their mouths or along adjacent coasts. Dependent upon such salt marshes and tidal mud-flats, both for breeding and for its specialised diet, which mainly comprises crabs, but also includes small fish and mudworms (Brazil and Melville 1991, Brazil 1992c), its current breeding range includes only coastal salt marshes north of the Chang Jiang (Yangtze) in Jiangsu, Shandong, Hebei and Liaoning provinces. It is currently known to breed only at six coastal/estuarine sites: the Yancheng Nature Reserve in Jiangsu, at Diaokou, and the Wang River, in Shandong, the Luan River in Hebei, and beside the Daling River, and the Shuangtaizi River (on the Shuangtaizi Hekou National Nature Reserve) in Liaoning (Shi *et al.* 1988, Anon. 1989, Brazil 1992b, Wong and

Figure 1. The range of Saunders's Gull *Larus saundersi* showing the four known breeding sites and the extent of the wintering range. [Inset detail of southwest Japan].



Yu 1992) (Figure 1). No doubt once a far more widely ranging breeding species, the vast majority of suitable breeding habitat in China has already been reclaimed, and the few remaining breeding sites are similarly threatened by coastal degradation, reclamation, development, and pollution (Melville 1987).

As with the breeding range, details of the migration routes and wintering range of Saunders's Gull have remained little known until recently. It was known as a vagrant to eastern Russia (Flint *et al.* 1984) and, with only ten records, was considered to be a vagrant to Japan (Ornithological Society of Japan 1974). It was believed to winter along the south coast of China, from south of the Chang Jiang to Hainan (Meyer de Schauensee 1984). During the early 1980s interest in the species in Japan (M.A.B.) and in Hong Kong (D. S. Melville) stimulated a greater awareness of the rarity of the species, and the need for information, not only concerning its breeding range, but also its wintering range. The first record in Hong Kong was in 1965 but in the mid 1980s it was found to be a significant wintering site, with 50-100 birds annually (Melville *in litt.* 1992). In Taiwan river mouths were found to attract up to 20 birds, and a particularly significant record was of over 200 birds in March 1988 at the mouth of the Hong river in northern Viet Nam (Scott 1988). But that was the limit of our knowledge of its status in winter, and since 1988 little further information has come to light from its continental coastal range. In Japan, however, the situation has changed considerably.

By the mid 1980s investigations in Japan had shown that it was not merely a vagrant, but a locally uncommon annual winter visitor from November to March, found particularly in Kyushu and Okinawa (Brazil 1991b). In February 1990 a flock of 34 at Yatsushiro was the largest flock recorded in Japan, suggesting that there were fewer birds in Japan than in Hong Kong, but the mud-flats and river mouths of the inland sea-like Ariake-kai were already noted as especially significant (Brazil 1991b). Since that time it has become evident that, although Saunders's Gull winters in small numbers at various localities from Okinawa in the south to Shikoku and Honshu in the north, by far the greatest concentrations occur in northern and western Kyushu: in Hakata Bay, facing the Tsushima channel; at Sone tidal flats, Kita-Kyushu; in the Ariake-kai, particularly at Isahaya Bay; at river mouths immediately west of Kumamoto; and at Yatsushiro on the Yatsushiro-kai. At these, and possibly at other as yet unstudied sites in the region, Saunders's Gulls are locally common, even (at Isahaya and Sone) sometimes outnumbering other gull species (N.M. pers. obs.).

Records of Saunders's Gull in Kyushu have increased dramatically in recent years, especially in the north: in the winter of 1984/1985 only eight were reported, but by 1987/1988 this had risen to 92, and in 1991/1992 up to 500 were estimated. Unfortunately, no data prior to 1980 are available, and it is clear that, even after this year, the data are sketchy. The increase in

numbers recorded is, however, highly significant for a species for which recent population estimates suggest that it is one of the world's rarest gulls, with as few as 2,000 surviving (Collar and Andrew 1988, Brazil 1992b and 1992c). This increase could be the result of birdwatchers in Japan taking more interest in gulls and developing the skills necessary to separate Saunders's Gull from similar species at long range. Another factor which is likely to be important is the rapid degradation, and reclamation and development of coastal wetlands along the Chinese and Korean coasts, which is likely to have displaced wintering birds. It seems likely that both these factors have contributed to the increased numbers recorded in Japan while, conversely, it is unlikely, given the loss of suitable nesting habitat and the impact of some catastrophic breeding seasons in China, that they could be resulting from any real increase in the population. The population is in fact presumed to be declining, and is currently faced with extinction as its six last known breeding sites are seriously threatened.

In 1988, flocks of 8, 14 and 27 in Okinawa and Kyushu were in the context of past published records (e.g. Ornithological Society of Japan 1974), considered exceptional (Brazil 1991b). Now, however, it is clear that considerably more birds winter in Japan than was hitherto known. Saunders's Gull start arriving in Kyushu in mid-November and numbers continue to build up during December. Numbers peak in Hakata Bay during November and fluctuate then through the winter until March, perhaps with local movements taking place between wetland sites in Kyushu (N.M. pers. obs.). Numbers decline rapidly during March, with almost all departing by 25 March, although exceptional records have included two adults present in mid-April 1992 and one first summer bird on 7 June 1992 (in Hakata Bay). The only previous record of a bird lingering to summer in Japan was of one on 13 June 1979 at Sagami-gawa, Kanagawa Prefecture (Hamaguchi *et al.* 1984).

Peak counts for sites in Kyushu since 1990 have greatly exceeded previous numbers (Brazil 1991a) and have included 40+ at Kumamoto during December 1990 (N.M.), 51 in Hakata Bay during November 1991 (H. Okabe verbally), 149 at Sone on 22 January 1991, and 165 there on 9 February 1992 (A. Yamamoto verbally), 100+ at Isahaya on 12 February 1992 (M.A.B.) and c. 180 there on 8 March 1992 (N.M. and D. S. Melville), 34 at Yatsushiro on 10 February and 47 on 6 March 1992 (M.A.B.). Two high counts made on the same day (8 March 1992), when c. 180 were at Isahaya (N.M. and D. S. Melville), and 156 were at Sone (A. Yamamoto *in litt.* 1992), provide a minimum figure of 336 at just two sites and, given that other sites taken all together are unlikely to have held fewer than 100-150 birds at the same time, suggests a minimum figure of 500 birds for Kyushu alone. Elsewhere in western Japan there is also some evidence of increased dependence on local wetlands, as at Kamogawa, Ehime Prefecture, Shikoku,

where a maximum of 14 was seen on 19 January 1992, compared with 2-4 birds annually during the late 1980s (Ozaki *in litt.* 1992).

It seems likely that some of the birds recorded in Hakata Bay move on south to the Ariake-kai and may visit Isahaya on the west side of the bay, Kumamoto in the east or even the Yatsushiro-kai to the south-east. Cursory visits during recent winters to the northern coastline of the Shimabara peninsula, jutting into the west Ariake-kai, and to the river mouths and mudflats south of Saga, along the northern shore of the Ariake-kai, indicate that there are also other areas which may hold flocks of this species which are not yet being counted regularly. Unfortunately, suitable habitat for the species is both highly localised, and also threatened by development in Japan too, making surveys particularly urgent. Counts and estimates already available suggest that Kyushu may hold 500 or more Saunders's Gulls during winter and, therefore, it is the most significant known wintering area for this species, making the wetlands there of great international importance.

Kyushu represents the northernmost wintering area for large numbers of Saunders's Gulls, and the birds wintering there are presumed to migrate down the Yellow Sea from the northern breeding sites in Liaoning and Hebei provinces, and possibly from Shandong via Korea. Smaller numbers also appear to be wintering in South Korea too, with 18 at the Nakdong delta on 11-12 February 1992 (N. M. pers. obs.). There is no direct evidence for this migration route, although birds have been observed in South Korea during April and May (Long *et al.* 1988), and a bird colour-ringed as a nestling on the S.N.N.R. in Liaoning province in 1991 (Brazil 1992) was photographed by Shigeki Sogame at Kamogawa, Shikoku, Japan on 27 January 1992 (K. Ozaki *in litt.* 1992). Birds passing Beidaihe in April and May, and from late September to early November (Williams *et al.* 1992) are indicative of a separate migration route along the western shores of the Bohai Gulf and the Yellow Sea.

Observations have shown that, while Saunders's Gulls will roost at high tide on water, as at Yatsushiro, they prefer sites where totally inundated mudflats are backed by drier saltmarsh, or where low-lying islands offer dry high-tide roosting sites. Thus sites that are reclaimed to the mean high water level become sub-optimal habitat for them, even if suitable foraging habitat remains at lower tide levels.

Given the current state of our knowledge concerning this globally threatened species, which suggests that at least 25% of the world population may winter in Kyushu, it is important to discover other regions or sites where Saunders's Gulls winter, and to clarify the extent of use of those sites already known. It is essential that a co-ordinated count of all its wintering sites in Japan is organised, to establish how many birds are currently dependent on the coastal wetlands. In addition, the species should be afforded special protection status in Japan, and its most significant wintering sites, including Hakata and

Isahaya bays (which also provide habitat for other internationally rare and threatened species such as Black-faced Spoonbill *Platalea minor* and Chinese Egret *Egretta eulophotes*), should be urgently targeted for designation as wetlands of international importance under the Ramsar Convention. None of the wetlands in Kyushu currently receives such protection, thereby leaving all the birds wintering there at risk.

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Mark A. Brazil, *The Japan Times*, 5-4 Shibaura 4-chome, Minato-ku, Tokyo 108, Japan.
 Nial Moores, Mitoma Kopo 102, Mitoma 1186-6, Higashi-ku, Fukuoka 811-02, Kyushu, Japan.